

6. Inspect the reverse shifter for worn, damaged or rounded gear lugs. Check the splines for severe wear or damage.
7. Inspect the shifter collar and collar for excessive wear or damage.
8. Measure the countershaft first, second, third and reverse gear inside diameters (**Figure 26**) and record the dimensions.
9. Measure the countershaft first, second and reverse gear bushing outside diameters (**Figure 27**) and record the dimensions.
10. Using the dimensions recorded in Step 8 and Step 9, determine the gear-to-bushing clearances.

#### Reverse Idle Gear

Refer to **Table 4** when measuring the reverse idle gear components (**Figure 24**) in this section. Replace parts that are out of specification or damaged.

1. Clean and dry the reverse idle gear assembly.
2. Check the reverse idle gear shaft for:
  - a. A loose or damaged pin.
  - b. Cracked pin hole.
  - c. Cracked or damaged bearing surfaces.
3. Check the reverse idle gear for:
  - a. Missing, broken or chipped teeth.
  - b. Cracked or scored gear bore.
4. Measure the reverse idle gear shaft outside diameter and record the dimension.
5. Measure the reverse idle gear inside diameter and record the dimension.
6. Using the dimensions recorded in Steps 4 and 5, determine the gear-to-shaft clearances.

#### INTERNAL SHIFT MECHANISM

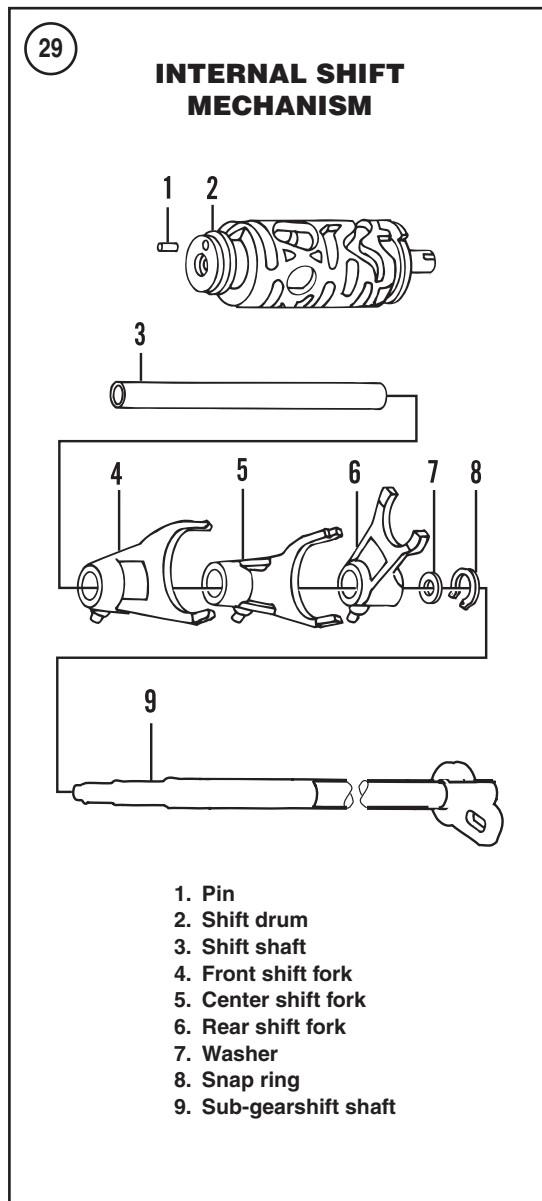
Refer to **Figure 29** when performing the following procedures.

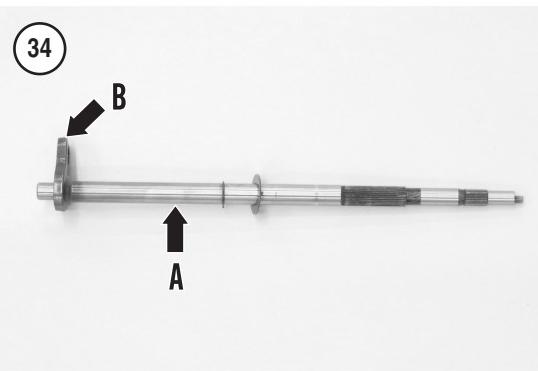
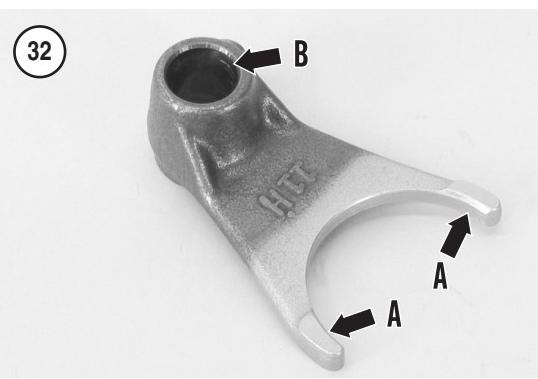
#### Removal/Installation

Remove and install the transmission assembly as described in *Crankcase Disassembly and Crankcase Assembly* in Chapter Five.

#### Shift Drum Inspection

1. Clean and dry the shift drum.





- Check the shift drum for excessively worn or damaged cam grooves (A, **Figure 30**) or bearing surfaces (B). Replace the shift drum if necessary.

#### Shift Fork Inspection

Refer to **Table 5** when measuring the shift fork components in this section. Replace parts that are out of specification or damaged.

- Inspect each shift fork (**Figure 31**) for signs of wear or damage. Examine the shift forks at the points where they contact the shifter gear (A, **Figure 32**). These surfaces must be smooth with no signs of wear, bending, cracks, heat discoloration or other damage.
- Check each shift fork for arc-shaped wear or burn marks. These marks indicate that the shift fork has contacted the gear.
- Check the shift fork shaft for bending or other damage. Install each shift fork on the shaft and slide it back and forth. Each shift fork should slide smoothly with no binding or tight spots. If all three shift forks bind on the shaft, check the shaft closely for bending. If only one shift fork binds on the shaft, check the shift fork closely.
- Measure each shift fork leg thickness (**Figure 33**).
- Measure the shift fork inside diameter (B, **Figure 32**) with a snap gauge. Then measure the snap gauge with a micrometer.
- Measure the shift fork shaft outside diameter at three different points on the shaft.

#### Sub-gearshift Shaft Inspection

- Inspect the sub-gearshift shaft and splines (A, **Figure 34**) for damage or bending.
- Inspect the arm (B, **Figure 34**) for excessive wear or damage.

#### REVERSE SELECTOR CABLE REPLACEMENT

- On models equipped with a combination meter, remove the meter cover (Chapter Fifteen).
- On models not equipped with a combination meter, remove the handlebar cover (Chapter Fifteen).
- Remove the fuel tank as described in this chapter.

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